

Appendices

Appendix I: Data Sources

Introduction to data sources

This chartbook consolidates the most current data on the health of women in the United States. The information was obtained from the data systems of two Centers within the Centers for Disease Control and Prevention (CDC): the National Center for Chronic Disease Prevention and Health Promotion and the National Center for Health Statistics. In each case, the sponsoring organization collected data using its own methods and procedures. Therefore, the data in this chartbook vary with respect to source, method of collection, definitions, and reference period.

Although a detailed description and comprehensive evaluation of each data source are beyond the scope of this appendix, users should be aware of the general strengths and limitations of the different data systems. For example, population-based surveys obtain sociodemographic data, data on family characteristics, and information on health behaviors. These data are limited by the amount of information a respondent remembers or is willing to report. Specific medical information may not be known and if not known, may not be reported.

The populations covered by different data collection systems may not be the same, and understanding the differences is critical to interpreting the data. Data on vital statistics cover the entire population for all ages. Data on morbidity cover only the civilian noninstitutionalized population who are 18 years of age and over. Such statistics do not include data for military personnel who are usually young, for institutionalized people who may be any age, or for nursing home residents who are usually old.

All data collection systems are subject to error, and records may be incomplete or contain inaccurate information. People may not remember essential information, a question may not mean the same thing to different respondents, and some institutions or individuals may not respond at all. It is not always possible to measure the magnitude of these errors or their impact on the data.

Overall estimates generally have relatively small sampling errors, but estimates for certain population subgroups may be based on small numbers and have relatively large sampling errors. Numbers of births and deaths from the vital statistics system represent complete counts. Therefore, they are not subject to sampling error. However, when the figures are used for analytical purposes, such as the comparison of rates between racial groups, the number of events that actually occurred may be considered as one of a large series of possible results that could have arisen under the same circumstances. When the number of events is small and the probability of such an event is small, considerable caution must be observed in interpreting the conditions described by the figures. Estimates that are unreliable because of large sampling errors or small numbers of events are noted with asterisks in selected tables. The criteria used to designate unreliable estimates are indicated in Appendix II: Relative Standard Error.

Descriptive summaries of the data sets that follow provide a general overview of study design, methods of data collection, and reliability and validity of the data. The agency or organization that sponsored the data collection is specified. More complete and detailed discussions are in the publications and Web sites listed at the end of each summary. The entries are listed alphabetically by dataset name.

Behavioral Risk Factor Surveillance System

Centers for Disease Control and Prevention

National Center for Chronic Disease Prevention and Health Promotion

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing, state-based telephone surveillance system administered and supported by the Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC. State public health departments are collaborators with CDC in producing these data.

The purpose of the BRFSS is to collect uniform, state-based data on preventive health practices and risk behaviors that are linked to chronic diseases, injuries, and preventable infectious diseases in the U.S. population. Data are

collected through monthly telephone interviews conducted among a sample of each state's adult population. When aggregated, the data show the prevalence of risk behaviors and preventive health practices on an annual basis. Respondents' participation is voluntary and personal identifiers such as names and addresses are not used. Individual-level data are pooled to provide information about the health practices of state residents.

States collect behavioral risk data via telephone interviews. Telephone interviews are an efficient method to collect data. Telephone interviews are easy to administer and monitor. All calls can be made from one location, and interviews are usually entered directly into a data file by use of computer-assisted methods. This enhances quality control efforts. Telephone interviews have some limitations, however. There is a major concern about non-coverage of persons in households without telephones and persons who only use cellular telephones which are not included in telephone survey sample universes. Also, data cannot be verified by physical measurement or visual means, which can increase validity concerns.

BRFSS questionnaire

The BRFSS questionnaire is designed to give states the flexibility to study areas of local concern while also providing annual data on topics of interest to all states and to CDC. The questionnaire has three parts: (1) the core component, consisting of the fixed core, the rotating core, and emerging issues questions, (2) optional modules, and (3) state-added questions. All BRFSS data included in the *Healthy Women: State Trends in Health and Mortality* project come from the core component of the survey.

Core component questions are asked by all states. The core component includes queries about current health-related perceptions, conditions and behaviors, and questions on demographic characteristics. The fixed core is a standard set of questions asked each year. The rotating core is two separate sets of standardized questions, each asked in alternating years. In the years that rotating topics are not used in the core, they are available as optional modules for states to use as desired.

Each year, the states and CDC agree on the content of the core component and optional modules. For comparability, many of the questions are taken from established national surveys, such as the National Health Interview Survey and the National Health and Nutrition Examination Survey. This practice allows states to compare their data with those from other surveys.

Comparability of data

The BRFSS is a cross-sectional surveillance survey currently involving 52 reporting areas. It is important to note that any survey will have natural variation over sample sites; therefore some variation between states is to be expected. The complex sample design and the multiple reporting areas complicate the analysis of the BRFSS. Although CDC works with the states to minimize deviations, each year there are some deviations in sampling and weighting protocols, and slight differences in question wording, populations covered on some sections, sample size, response rates, and collection or processing procedures. Because of the differences in data collection by states, national estimates are not calculated from BRFSS for this publication.

For more information about the BRFSS, see the Centers for Disease Control and Prevention's National Center for Chronic Disease Prevention and Health Promotion online at: <http://www.cdc.gov/brfss/>.

National Vital Statistics System

*Centers for Disease Control and Prevention
National Center for Health Statistics*

Through the National Vital Statistics System, the National Center for Health Statistics (NCHS) collects and publishes data on births, deaths, marriages, and divorces in the United States. The Division of Vital Statistics obtains information on births and deaths from the registration offices of all states, New York City, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. Geographic coverage for births and deaths has been complete since 1933.

In 1972, some states began sending their data to NCHS through the Cooperative Health Statistics System (CHSS). States that participated in the CHSS program processed 100 percent of their death and birth records and sent

the entire data file to NCHS on computer tapes. Currently, the data are sent to NCHS through the Vital Statistics Cooperative Program (VSCP), following the same procedures as CHSS. Starting in 1985 all 50 states and the District of Columbia participated in VSCP.

In most areas practically all births and deaths are registered. The most recent test of the completeness of birth registration, conducted on a sample of births from 1964 to 1968, showed that 99.3 percent of all births in the U.S. during that period were registered. No comparable information is available for deaths, but it is generally believed that death registration in the U.S. is at least as complete as birth registration. The National Vital Statistics System is one of the few sources of comparable health-related data for smaller geographic areas in the U.S. and over a long time period.

U.S. Standard Certificates

U.S. Standard Live Birth and Death Certificates and Fetal Death Reports are revised periodically, allowing careful evaluation of each item and addition, modification, and deletion of items. The data presented in this chartbook come from the 1989 revised standard certificates. The 1989 revision of the birth certificate includes items to identify the Hispanic parentage of newborns and to expand information about maternal and infant health characteristics. The 1989 revision of the death certificate includes items on educational attainment and Hispanic origin of decedents, as well as changes to improve the medical certification of cause of death. Standard certificates recommended by NCHS are modified in each registration area to serve the area's needs. However, most certificates conform closely in content and arrangement to the standard certificate, and all certificates contain a minimum data set specified by NCHS.

Birth file

The birth file is comprised of demographic and medical information from birth certificates. Demographic information, such as race and ethnicity, is provided by the mother at the time of birth. Medical and health information is based on hospital records. Reporting areas and methodologies for items on the birth certificate have changed over time, although little has changed over the period being presented in this chartbook.

For more information, see National Center for Health Statistics, Vital Statistics of the United States, Vol. I Natality, Technical Appendix, available at: <http://www.cdc.gov/nchs/births.htm>.

Mortality file

The mortality data file is comprised of demographic and medical information from death certificates. Demographic information is provided by the funeral director based on information supplied by an informant. Medical certification of cause of death is provided by a physician, medical examiner, or coroner. The mortality data file is a fundamental source of cause-of-death information by demographic characteristics and for geographic areas, such as states.

For more information, see National Center for Health Statistics, Vital Statistics of the United States, Vol. II Mortality Part A, Technical Appendix, available at: <http://www.cdc.gov/nchs/datawh/statab/pubd/ta.htm>.

Population Census and Population Estimates

Bureau of the Census

Race data on Census 2000

The question on race on Census 2000 was based on the Office of Management and Budget's 1997 "Revisions of the Standards for the Classification of Federal Data on Race and Ethnicity" (see Appendix II: Race). The 1997 Standards changed the way race data are collected, tabulated and presented in two major ways. First, the 1997 Standards increased from four to five the minimum set of categories to be used by Federal agencies for identification of race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. Second, the 1997 Standards included the requirement that Federal data collection programs allow respondents to select one or more race categories when responding to a query on their racial identity. This provision means that there are potentially 31 race groups, depending on whether an individual selects one, two, three, four, or all five of the race categories. The 1997 Standards continue to call for use, when possible, of a separate question on Hispanic or Latino ethnicity and specify that the ethnicity question should appear before the question on race. Thus, under the 1997 Standards, Hispanics may be of any race.

Bridged-race population estimates for Census 2000

Race data on Census 2000 are not comparable with race data on other data systems that have continued to collect data using the 1977 Standards on race and ethnicity during the transition to full implementation of the 1997 Standards. For example, most of the states in the Vital Statistics Cooperative Program were in the process of redesigning their birth and death certificates to conform to the 1997 Standards in 2001. Thus, population estimates for 2000 and beyond with race categories comparable to the 1977 categories are needed so that race-specific birth and death rates can be calculated. To meet this need, NCHS, in collaboration with the U.S. Census Bureau, developed methodology to bridge the 31 race groups in Census 2000 to the four single-race categories specified under the 1977 Standards.

The bridging methodology was developed using information from the 1997-2000 National Health Interview Survey (NHIS), an annual survey sponsored by NCHS and conducted by the Census Bureau. The NHIS provides a unique opportunity to investigate multiple-race groups because since 1982, the NHIS has allowed respondents to choose more than one race but has also asked respondents reporting multiple races to choose a "primary" race. The bridging methodology developed by NCHS involved the application of regression models relating person-level and county-level covariates to the selection of a particular primary race by the multiple-race respondents. Bridging proportions derived from these models were applied by the U.S. Census Bureau to the Census 2000 Modified Race Data Summary File. This application resulted in bridged counts of the April 1, 2000 resident single-race populations for four racial groups, American Indian or Alaska Native, Asian or Pacific Islander, black, and white.

For more information about bridged-race population estimates, see <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>.

Intercensal population estimates

The further from the census year on which the postcensal estimates are based, the less accurate are the postcensal estimates. With the completion of the decennial census at the end of the decade, intercensal estimates for the preceding decade were prepared to replace the less accurate postcensal estimates. Intercensal population estimates take into account the census of population at the beginning and end of the decade. Thus intercensal estimates are more accurate than postcensal estimates as they correct for the "error of closure" or difference between the estimated population at the end of the decade and the census count for that date. The error of closure differentially affects age, race, sex, and Hispanic origin subgroup populations as well as the rates based on these populations. Vital rates that were calculated using postcensal population estimates are routinely revised when intercensal estimates become available because the intercensal estimates correct for the error of closure.

Intercensal estimates for the 1990s with race data comparable to the 1977 Standards have been derived so that vital rates for the 1990s could be revised to reflect Census 2000. Calculation of the intercensal population estimates for the 1990s was complicated by the incomparability of the race data on the 1990 and 2000 censuses. The Census Bureau, in collaboration with National Cancer Institute and NCHS, derived race-specific intercensal population estimates for the 1990s using the 1990 Modified Age, Race and Sex (MARS) file as the beginning population base and the bridged-race population estimates for April 1, 2000 as the ending population base.

Bridged-race intercensal population estimates are available at: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>.

Healthy Women: State Trends in Health and Mortality

Centers for Disease Control and Prevention (CDC)

National Center for Health Statistics

In 1998, NCHS began work on the *Healthy Women: State Trends in Health and Mortality* project (*Healthy Women*). The project was developed by NCHS with support from the Department of Health and Human Services' Office on Women's Health and Office for Minority Health. The goal of the project is to make information and statistics on the health and well-being of women and men available in a user-friendly, Web-based format. From the *Healthy Women* website (<http://www.cdc.gov/nchs/healthywomen.htm>), data tables may be viewed and downloaded that describe health status in each state by sex, race, Hispanic origin, age, and year, with a primary

focus on women's health issues. These tables include information on mortality, morbidity, health risk factors, access to care, and preventive care usage.

One of the main goals of this data dissemination project was to allow access to data by the public. Therefore, all data are pre-tabulated, age-adjusted where necessary, and presented only when NCHS's standards of reliability and confidentiality are met. To present the greatest number of estimates for small subpopulations, three year averages are presented. While this might not allow for quick identification of changes in trend, it allows for a much greater number of reliable estimates to be included in the tables. These tables have been released both on CD-ROM and on the NCHS Internet site.

Currently, the tables in the data warehouse include:

1. Mortality: 1997-2001
2. Natality: 1997-2002
3. Behavioral Risk Factor Surveillance System (BRFSS): 1997--2002

Further information and access to these tables is available at: <http://www.cdc.gov/nchs/healthywomen.htm>.

Appendix II: Definitions and Methods

Appendix II contains an alphabetical listing of terms used in the *Women's Health and Mortality Chartbook*. It includes cross-references to related terms and synonyms. It also describes the methods used for calculating rates.

Age adjustment - Age adjustment is used to compare statistics for two or more populations at one point in time or one population at two or more points in time. Age-adjusted rates should be viewed as relative indexes rather than actual measures of risk. Age-adjusted rates and proportions are computed by the direct method by applying age-specific rates in a population of interest to a standardized age distribution in order to eliminate differences in observed rates or proportions that result from age differences in population composition.

Age-adjusted rates are calculated by the direct method as follows:

$$\sum_{i=1}^n r_i \times (p_i / P)$$

where r_i = rate or proportion in age group i in the population of interest
 p_i = standard population in age group i

$$P = \sum_{i=1}^n p_i$$

n = total number of age groups over the age range of the age-adjusted rate

Age adjustment by the direct method requires use of a standard age distribution. The standard for age adjusting death rates and estimates for this chartbook is the year 2000 projected U.S. resident population.

Mortality data

Death rates are age adjusted to the year 2000 U.S. standard population (Table I). Age-adjusted rates are calculated using age-specific death rates per 100,000 population rounded to 1 decimal place. Adjustment is based on 11 age groups.

BRFSS

Proportions are age adjusted to the year 2000 U.S. standard population (Table I). Adjustment is generally based on 3 age groups: 18-44, 45-64, and 65+.

Table I. United States standard population, 2000

Age	Number
All ages	1,000,000
Under 1 year	13,818
1-4 years	55,317
5-14 years	145,565
15-24 years	138,646
25-34 years	135,573
35-44 years	162,613
45-54 years	134,834
55-64 years	87,247
65-74 years	66,037
75-84 years	44,842
85 years and over	15,508

Body mass index (BMI) - See Obesity

Binge drinking - BRFSS respondents were asked a series of questions on alcohol consumption. Respondents who consumed 5 or more drinks on at least one occasion in the last month were defined as 'binge drinkers'. These alcohol consumption questions are part of a series of questions included in the standard BRFSS questionnaire in odd years and the data are generally reported as two year averages. The following states chose to also include the alcohol questions in 2000: Alaska, Idaho, Illinois, Iowa, Nevada, New Mexico, Ohio, Tennessee, Texas, Vermont, and Wisconsin. For these states, the data are reported as three year averages.

Blood stool tests - Blood stool testing, sometimes called fecal occult blood testing, is a chemical test that can detect minute traces of blood in the feces (stool). The test is normally done by applying a small sample of feces to a piece of paper that contains the reacting chemical. BRFSS respondents were asked the following questions: "A blood stool test is a test that may use a special kit at home to determine whether the stool contains blood. Have you ever had this test using a home kit?" and "How long has it been since you had your last blood stool test using a home kit?" (for year 2001) or "When did you have your last blood stool test using a home kit?" (for years 1999 and 2000). The proportion shown are based on the respondents who answered "yes" to the first question and "within the past year" or "within the past 2 years" to the second question. These questions are part of a series of questions included in the standard BRFSS questionnaire in odd years and the data are reported as two year averages. The following states chose to also include the blood stool test questions in 2000: Colorado, Illinois, Massachusetts, Ohio and Utah. For these states, the data are reported as three year averages. Illinois asked this question of only half its sample in 2001.

Cause of death - Cause of death is reported by attending physicians, medical examiners, and coroners on death certificates filed in state vital statistics offices. For the purpose of national mortality statistics, every death is attributed to one underlying condition, based on information reported on the death certificate and utilizing the international rules for selecting the underlying cause of death from the reported conditions. Cause of death is coded according to the appropriate revision of the International Classification of Diseases (ICD). The Tenth Revision (ICD-10) was implemented in the U.S. effective with deaths occurring in January 1999 (Table II).

Underlying cause of death

The underlying cause is defined by the World Health Organization (WHO) as the disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence, which produced the fatal injury. In this chartbook, most death rates are computed using the underlying cause of death.

Multiple cause of death

The conditions that are not selected as underlying cause of death constitute the non-underlying cause of death, also known as multiple cause of death. In this chartbook, all deaths which listed diabetes as either underlying or multiple cause of death were tabulated within the category of diabetes-related deaths.

Table II. Codes for Selected Causes of Death, Tenth Revision of the *International Classification of Diseases (ICD-10)*

<i>Cause of death</i>	<i>ICD-10-codes</i>
All cause	A00-Z99
Heart disease	I00-I09, I11, I13, I20-I51
Coronary heart disease	I11, I20-I25
Total cancer	C00-C97
Breast cancer	C50
Colorectal cancer	C18-21
Lung cancer	C33-C34
Stroke	I60-I69
Chronic lower respiratory disease	J40-J47
Diabetes-related	E10-E14
Influenza and pneumonia	J10-J18
Unintentional injuries	V01-X59, Y85-Y86
Suicide	X60-X84

Cholesterol screening - BRFSS respondents were asked the questions: 1) "Blood cholesterol is a fatty substance found in the blood. Have you ever had your blood cholesterol checked?" and 2) "About how long has it been since you last had your blood cholesterol checked?" The proportions shown are based on the respondents who answered "yes" to the first question and "within the past year", "within the past 2 years", or "within the past 5 years" to the second question. These questions are part of a series of questions included in the standard BRFSS questionnaire in odd years and the data are generally reported as two year averages. The following states chose to also include the cholesterol questions in 2000: Illinois, Iowa, Ohio, Oklahoma, Tennessee, and Virginia. For these states, the data are reported as three year averages. Illinois asked this question of only half its sample in 2001.

Death rate - Death rates are calculated by dividing the number of deaths in 1999-2001 in a population by the resident population in 2000 multiplied by three. Because 2000 was a census year, rates are based on unrounded census counts of the resident population, as of April 1. Death rates are expressed as the number of deaths per 100,000 females (See related Appendix II: Age adjustment and Table I. United States standard population, 2000).

Diagnosed high blood pressure – see High blood pressure

Early and adequate prenatal care – see Prenatal care, early and adequate

Exercise - see Leisure-time physical activity

Fecal occult blood testing - see Blood stool tests

Fruit and vegetable consumption - Fruit and vegetable consumption is calculated according to formulas developed by BRFSS staff. This calculation was based on respondents' answers to questions about average servings of fruit juice; fruits other than juices; green salad; potatoes not including french fries, fried potatoes, or potato chips; carrots; and all other vegetables. This series of questions is included in the standard BRFSS questions in even years and the data are reported as two year averages. The following states chose to also include the fruits and vegetables questions 2001: Arizona, Connecticut, Hawaii, Illinois, Iowa, Kentucky, Montana, Ohio, Tennessee, and Wisconsin. For these states, the data are reported as three year averages.

Geographic regions - The 50 states and the District of Columbia are grouped for statistical purposes by the U.S. Bureau of the Census into four geographic regions. These regions are as follows:

- Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont
- Midwest: Indiana, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin
- South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia
- West: Arizona, California, Colorado, Hawaii, Idaho, New Mexico, Montana, Oregon, Utah, Nevada, Washington, Wyoming

Health insurance coverage - BRFSS respondents were asked the question "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?" The proportions shown are based on the respondents who answered "yes."

Healthy People 2010 - Healthy People 2010 is a national health promotion and disease prevention agenda, developed by the U.S. Department of Health and Human Services. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national objectives to reduce these threats. Healthy People 2010 is a set of health objectives for the Nation to achieve over the first decade of the new century. More information on Healthy People 2010 is available at: <http://www.health.gov/healthypeople>.

High blood pressure - BRFSS respondents were asked the question "Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?" The proportions shown are based on the respondents who answered "yes." This question is part of a series of questions included in the standard BRFSS questionnaire in odd years and the data are reported as two year averages. The following states chose to also include the hypertension question in 2000: Illinois, Iowa, Maine, Ohio, Tennessee, and Virginia. For these states, the data are reported as three year averages. Illinois asked this question of only half of its sample in 2001.

Hispanic origin - Hispanic or Latino origin includes persons of Mexican, Puerto Rican, Cuban, Central and South American, and other or unknown Latin American or Spanish origins. Persons of Hispanic origin may be of any race. In BRFSS, questions on Hispanic origin are self-reported and precede questions on race. On the birth certificate, Hispanic origin of the mother is included as a check-box on the standard birth certificate form.

Ethnicity information on the death certificate is reported by the funeral director as provided by an informant, often the surviving next of kin, or, in the absence of an informant, on the basis of observation. Ethnicity information from the census is by self report. To the extent Hispanic origin is inconsistent between these two data sources, death rates will be biased. Studies have shown that persons self reported as Hispanic on census and survey records may sometimes be reported as non-Hispanic on the death certificate, resulting in an underestimation of deaths and death rates for Hispanics. The net effects of misclassification result in understated death rates for Hispanics by 2 percent.

For more information, see Rosenberg HM, Maurer JD, Sorlie PD, Johnson NJ, et al. *Quality of death rates by race and Hispanic origin: A summary of current research*, 1999. National Center for Health Statistics. Vital Health Stat 2(128). 1999.

Hypothesis tests - Two-tailed tests of significance were performed on all the comparisons mentioned in the text associated with each state's table (no adjustments were made for multiple comparisons). The test statistic used to determine statistical significance of the difference between two percents was:

$$Z = \frac{|X_a - X_b|}{\sqrt{S_a^2 + S_b^2}}$$

where X_a and X_b are the two percents/rates being compared, and S_a and S_b are the standard errors of those percents/rates. The critical value used for two-sided tests at the 0.05 level of significance was 1.96.

Leisure-time physical activity - BRFSS respondents were asked, "During the past month, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" The proportions shown are based on the respondents who answered "no."

Mammogram - A mammogram is an x-ray of the breast to check for cancer and other irregularities in breast tissue. BRFSS female respondents were asked the questions, "Have you ever had a mammogram?" and "How long has it been since you had your last mammogram?" The proportions shown are based on the respondents who answered "yes" to the first question and "within the past year" or "within the past 2 years" to the second question. Female respondents in California received a modified lead-in to the first question which was "I would like to ask you a few questions about a medical exam called a mammogram." Thus, while the actual questions were the same, the comparability of the California data to other states due to this modified introduction is unknown. This question is part of a series of questions included in the standard BRFSS 2000 and 2002 core questionnaire and the data are reported as two year averages. In 2001, the following states chose to include these survey questions: Arizona, Arkansas, Colorado, Georgia, Hawaii, Mississippi, New Jersey, Oklahoma, Rhode Island, South Dakota, Tennessee, Wisconsin, and Wyoming. For these states, the data are reported as three year averages.

Obesity - Obesity is defined using the body mass index (BMI), a measure that adjusts bodyweight for height. BMI is calculated as weight in kilograms divided by height in meters squared. Obesity for adults is defined as a BMI greater than or equal to 30. BMI weight categories are defined in U.S. Department of Health and Human Services, *Tracking Healthy People 2010*. Washington, DC: U.S. Government Printing Office, November 2000. Objectives 19.1, 19.2, and 19.3, or it is available at: <http://www.health.gov/healthypeople/document/html/volume2/19nutrition.htm>. BRFSS depends on self-reported weight and height measurements, which may introduce error into the measure.

Pap smear - A Pap smear (also known as a Papanicolaou smear or Pap test) is a microscopic examination of cells scraped from the cervix that is used to detect cancerous or precancerous conditions of the cervix. BRFSS female respondents were asked the questions, "A Pap smear is a test for cancer of the cervix. Have you ever had a Pap smear?" and "How long has it been since your last Pap smear?" The proportions shown are based on the respondents who answered "yes" to the first question and "within the past year", "within the past 2 years" or "within the past 3 years" to the second question. Respondents in California received a modified lead-in to the first question which was "A Pap smear is a test where material is taken from the cervix, that is the mouth of the womb, to see if any cancer cells are present. Have you ever had a Pap smear?" Thus, while the actual questions were the same, the comparability of the California data to other states due to this modified introduction is unknown. This question is part of a series of questions included in the standard BRFSS 2000 and 2002 core questionnaire and the data are reported as two year averages. In 2001, 13 the following states chose to include these questions: Arizona, Arkansas, Colorado, Georgia, Hawaii, Mississippi, New Jersey, Oklahoma, Rhode Island, South Dakota, Tennessee, Wisconsin, and Wyoming. For those states, the data are reported as three year averages.

Population - The U.S. Bureau of the Census collects and publishes data on populations in the United States according to several different definitions. Various statistical systems then use the appropriate population for calculating rates. See also Appendix I: Population Census and Population Estimates.

Resident population

Resident population includes persons whose usual place of residence (that is, the place where one usually lives and sleeps) is in one of the 50 states or the District of Columbia. It includes members of the Armed Forces stationed in the U.S. and their families. It excludes international military, naval, and diplomatic personnel and their families located in this country and residing in embassies or similar quarters. Also excluded are international workers and international students in this country and Americans living abroad. The resident population is the denominator when calculating death rates.

Civilian noninstitutionalized population

The civilian noninstitutionalized population is the civilian population not residing in institutions. Institutions include correctional institutions, detention homes, and training schools for juvenile delinquents; homes for aged and dependent persons (for example, nursing homes and convalescent homes); homes for dependent and neglected children; homes and schools for mentally or physically handicapped persons; homes for unwed mothers; psychiatric, tuberculosis, and chronic disease hospitals; and residential treatment centers. Census Bureau estimates of the civilian noninstitutionalized population are used to calculate sample weights for BRFSS.

Prenatal care, early and adequate - Early and adequate prenatal care is a measure that combines the month prenatal care began and total number of prenatal care visits. This measure is called the Adequacy of Prenatal Care Utilization Index which was previously developed.²³ Adequacy of prenatal care is defined by this index based on two dimensions: the adequacy of initiation of prenatal care, which is determined by the month prenatal care begins, and the adequacy of received services, which compares the total number of prenatal visits adjusted for length of gestation with the expected number of visits based on standards set by American College of Obstetricians and Gynecologists. Births can be classified as "intensive use," "adequate," "intermediate," or "less than adequate." For this indicator, adequate prenatal care is defined as a score of either "adequate" or "intensive use."

Quintiles - Quintiles means divided into five parts. Quintiles were used in mapping indicators. Because 52 geographic areas are presented on each map, it was necessary for some categories to contain more states than others. In each map, the category showing the best health status contained at least 10 states and the category showing the worst health status contained no more than 10 states. If states with equivalent values crossed the break between first and second categories, both states were placed in the first category. If states with equivalent values crossed the break between fourth and fifth categories, both states were placed in the fourth category.

Map legend

Data value ranges describe the categories; they do not define the categories. For example, on maps where dark colors indicate low numerical values, the minimum value of the 1st range presented in the legend is the minimum value for the whole distribution. The minimum value for the 2nd range presented in the legend is 1 decimal point above the value of the last state in the 1st range.

Race - In 1977, the Office of Management and Budget (OMB) issued Race and Ethnicity Standards for Federal Statistics and Administrative Reporting in order to promote comparability of data among Federal data systems. The 1977 Standards called for the Federal Government's data systems to classify individuals into the following four racial groups: American Indian or Alaska Native, Asian or Pacific Islander, black, and white. Depending on the data source, the classification by race was based on self-classification or on observation by an interviewer or other person filling out the questionnaire. The 1977 Standards were used to present race in this chartbook.

Maternal race

If the race of the mother is not defined or not identifiable with one of the categories used in the classification (0.4 percent of births in 2001) and the race of the father is known, the race of the father is assigned to the mother. Where information for both parents is missing, the race of the mother is allocated electronically according to the specific race of the mother on the preceding record with a known race of mother. Data for both parents were missing for only 0.3 percent of birth certificates for 2001.

BRFSS race

Before 2001, respondents to the BRFSS survey were allowed to identify as only one race from the following list: White, Black, Asian/Pacific Islander, American Indian/Alaska Native. In 2001, the questionnaire was changed. The first change was that two Asian response categories were given: Asian and Native Hawaiian or Other Pacific Islander. The second change was to allow respondents the opportunity to give more than one response to the race question. Those respondents who answered they were of multiple races were asked "Which one of these groups would you say best represents your race?" Because the three-year averages calculated in the *Healthy Women* project include years with both single and multiple race questions, the preferred race was used in 2001 and 2002 for calculating proportions.

Mortality race

Deaths are classified by race: white, black, American Indian, and Asian or Pacific Islander. The white category includes, in addition to persons reported as white, those reported in the race item on the death certificate as Hispanic, Mexican, Puerto Rican, Cuban, and all other Caucasians. The American Indian category includes North, Central, and South American Indian, Eskimo, and Aleut. If the racial entry on the death certificate indicates a mixture of Hawaiian and any other race, the entry is coded to Hawaiian. If the race is given as a mixture of white and any other race, the entry is coded to the appropriate nonwhite race. If a mixture of races other than white is given (except Hawaiian), the entry is coded to the first race listed.

Quality of race data

A number of studies have been conducted on the reliability of race reported on the death certificate by comparing race on the death certificate with that reported on another data collection instrument, such as the census or a survey. Differences may arise because of differences in who provides race information on the compared records. Race information on the death certificate is reported by the funeral director as provided by an informant or in the absence of an informant, on the basis of observation. In contrast, race on the census or on the Current Population Survey (CPS) is obtained while the individual is alive and is self-reported or reported by another member of the household familiar with the individual and, therefore, may be considered more valid. A high level of agreement between the death certificate and the census or survey report is essential to assure unbiased death rates by race.

Results from several studies show that a person self-reported as American Indian or Asian on census or survey records was sometimes reported as white on the death certificate.²⁴⁻²⁶ The net effect of misclassification is an underestimation of deaths and death rates for races other than white and black. In addition, undercoverage of minority groups in the census and resultant population estimates, introduces biases into death rates by race.²⁷⁻²⁹ Estimates of the approximate effect of the combined bias due to race misclassification on death certificates and underenumeration on the 1990 census are as follows: white, -1.0 percent; black, -5.0; American Indian, +20.6, Asian or Pacific Islander, +10.7.²⁹

Other races and race not stated

All records coded as "Other races" (0.02 percent of the total deaths in 1997) were assigned to the specified race of the previous record. Records for which race was unknown, not stated, or not classifiable (0.08 percent) were assigned the racial designation of the previous record.

Ranking process - States were ranked in terms of their relative standing on each indicator shown in this chartbook. The ranks indicate how healthy a state's women were, in general, compared to other states. Low numbers designate states that are healthier relative to other states, while high numbers denote states with less healthy populations. Because not all indicators are measured in the same direction, this ranking does not necessarily match higher or lower values for particular indicators. For example, states with high proportions of women who smoke would be given rankings of higher numbers, while states with high proportions of women who did not smoke during pregnancy would be given rankings with lower numbers.

When states were tied, the lower (or healthier) ranking was given to those states and the higher ranking was not used. For example, Vermont and Wyoming each have the same percentage of women reporting diagnosed high blood pressure. Three states had lower percentages of diagnosed high blood pressure than Vermont and

Wyoming, so both states were given the ranking 4. The next highest percentage was found in Connecticut and that state was given the ranking 6 because a total of 5 states have lower percentages than Connecticut.

Map colors

Darker colors on the maps represent poorer relative health status. Lighter colors on maps represent better relative health status. Because not all indicators are measured in the same direction, the colors do not indicate higher or lower percentages or rates. For example, states with high proportions of women who smoke are shaded dark colors, while states with high proportions of women who did not smoke during pregnancy are shaded lighter colors.

Region - See Geographic region

Relative standard error - The relative standard error (RSE) is a measure of an estimate's reliability. The RSE of an estimate is obtained by dividing the standard error of the estimate (SE(r)) by the estimate itself (r). This quantity is expressed as a percent of the estimate and is calculated as follows: $RSE=100 \times (SE(r)/r)$. Estimates with large RSEs are considered unreliable and are not presented. For death and birth data, rates or proportions with a numerator of less than 20, which corresponds to an RSE of 23 percent are considered unreliable. For BRFSS, proportions with a RSE of > 30 percent are considered unreliable.

Routine check-up - BRFSS respondents are asked the question "About how long has it been since you last visited a doctor for a routine checkup?" The proportions shown are based on the respondents who answered "within the past year" or "within the past 2 years".

Smoking currently - Smoking status is calculated according to formulas developed by BRFSS staff. This calculation was based on respondents' answers to a series of smoking questions. BRFSS respondents defined as 'current smokers' have smoked at least 100 cigarettes in their entire life and smoke everyday or some days.

Smoking during pregnancy - Whether or not tobacco was used during pregnancy is reported on the birth certificate in most states. California did not collect that information during the entire period, and South Dakota only began collecting tobacco use on their birth certificate starting in 2000. The areas reporting tobacco use comprised 87 percent of the U.S. births in 1999-2001.

Standard of reliability or precision - see Relative standard error

Unknown values - All unknown values (persons coded as "refused," "don't know," or "not ascertained") with respect to each variable of interest were removed from the denominators when calculating the proportions presented.

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